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REMARKS

Claims 1-20 are pending while claims 1-20 stand rejected under 35 U.S.C. §103(a). Claims 1-20 have not been amended and remain for consideration upon entry and consideration of the present amendment. No new matter has been added.

The Examiner acknowledges the Applicant's arguments filed on 6/04, but does not consider them persuasive. The Examiner states that all of elements of the invention are disclosed by Asao et al. and Radomski. Applicant respectfully, traverses. Applicant claims "more than two flux carrying segments" which includes three flux carrying segments. Asao et al. disclose only two flux carrying segments while Radomski discloses four.

In response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, the Examiner states that "it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971)."

The Examiner states that Asao et al. shows the phase shifting in Figure 4 (30 degrees) and that, although Asao et al. does not show a twin-coil rotor, Applicant's claims 1 and 11 do not recite a twin-coil rotor. The Examiner further notes that "two flux carrying segments" does not mean a "twin-coil rotor". Applicant respectfully agrees that a "twin-coil rotor" is not claimed and that "two-flux carrying segments" is not a twin-coil rotor. More accurately, Applicant claims "more than two flux carrying segments" (e.g., three (3) or more) and respectfully submits that a "twin-coil rotor" includes four (4) flux carrying segments.

The Examiner concludes that even if the Applicant does not limit the structure of windings and the length of the stator or rotor, the claims do not include any winding

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structures or stator and rotor length. The Examiner states as a result, the rejection is still deemed proper and repeated hereinafter. Applicant respectfully traverses for the reasons set forth below.

**Claim Rejections -35 USC §103**

Claims 1-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Asao et al. (U.S. Patent No. 6,268,678) in view of Radomski (U.S. Patent No. 4,882,515). Applicant respectfully traverses.

A §103 rejection presumes the existence of differences between the subject matter claimed and the teachings of the prior art. Otherwise a rejection under §102 would have sufficed. Thus, the Examiner must be able to point to something in the prior art that suggests in some way a modification of a particular reference or a combination with another reference in order to arrive at the claimed invention. However, the "suggestion to modify the art to produce the claimed invention need not be expressly stated in one or all the references to show obviousness." *Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886 (Fed. Cir. 1985). "Rather, the test is whether the combined teachings of the prior art, taken as a whole" suggest the modifications to the person of ordinary skill in the art. *In re Napier*, 55 F.3d 610, 34 USPQ2d 1782 (Fed. Cir. 1995).

Absent such a showing in the prior art, the Examiner has impermissibly used "hindsight" occasioned by the Applicant's teaching to hunt through the prior art for the claimed elements and combine them as claimed. *In re Zurko*, 111 F.3d 887, 42 USPQ2d 1476 (Fed. Cir. 1997); *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991); *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990); *In re Laskowski*, 871 F.2d 115, 117, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989). Such an approach would be "illegal and inappropriate process by which to determine patentability." *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570, 38 USPQ2d 1551, 1554 (Fed. Cir. 1996).

Further, a §103 rejection based upon a modification of a reference that destroys the intent, purpose or function of the invention disclosed in the reference, is not proper and the prima facie case of obviousness cannot be properly made. In short, there would

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be no technological motivation for engaging in the modification or change. To the contrary, there would be a disincentive. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The Federal Circuit observed in *Gordon* that if the prior art filter-separator were physically inverted, as would be necessary to meet the claim limitation, the reference filter would become impenetrable and fluid would be trapped rather than separated.

In the case at hand, if the prior art rotor of Asao were physically changed to include more than two flux carrying segments as taught in Radomski, as would be necessary to meet the claim limitation (e.g., claims 1 and 11), an axial length of the rotor, and thus the stator, of the reference rotor of Asao would necessarily increase, thus negating advantages taught by Asao. There would be technological motivation for not engaging in the modification or change of Asao to save the advantages taught in Asao.

More specifically, where the prior art reference teaches away from the claimed invention, that is highly probative evidence that the invention is nonobvious. *United States v. Adams*, 383 U.S. 39, 148 USPQ 479(1966); *In re Mercer*, 515 F.2d 1161, 1165-66, 185 USPQ 774, 777-79 (CCPA 1975); *In re Rosenberger*, 386 F.2d 1015, 1018 (CCPA 1967); *American Original Corp. v. Jenkins Food Corp.*, 696 F.2d 1053, 216 USPQ 945 (4<sup>th</sup> Cir. 1982). Mere existence in the prior art of individual features of patented invention does not, without more, invalidate patent; it would reduce patent protection almost to nullity if the infringer could, in light of subsequent disclosure, combine prior art and piece together portions of earlier patents, while dropping other parts, and thereby invalidate new combination of old elements. *Sherman Industries, Inc.*, 219 USPQ 256 (D.N.J. June 1983) (NO. 80-3807).

Asao et al. disclose that, "an object of the present invention is to provide an alternator applicable for automotive use enabling the realization of improved reliability, *high performance*, and low cost . . ." (Emphasis added.) Column 2, lines 55-58. However, Asao clearly depicts and describes a conventional Lundell rotor that consists of two claw pole segments, such as in embodiment 1 of the preferred embodiments; "[i]n FIGS. 1 and 2, the automotive alternator is constructed by rotatably mounting a Lundell-type rotor 7 inside a case . . ." Column 4, line 65-66. The rotor construction is further defined in column 5, lines 18-32 and is clearly defined as a Lundell rotor. Finally, in the

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last embodiment, i.e., Figure 9, Asao makes an effort to broaden the coverage of the rotor construction by stating, “[e]ach of the above embodiments used a Lundell-type rotor having claw-shaped magnetic poles, but the same effects can be achieved using a Salient-type rotor having projecting magnetic poles.” Column 17, lines 34-37. It is respectfully pointed out that neither a Lundell-type rotor, nor a salient pole rotor is a rotor composed of more than two flux carrying segments. Thus, Asao et al. teach away from a rotor having more than two flux carrying segments, (e.g., three or more flux carrying segments) discussed more fully below.

Further, Asao teaches away from longer stator stack lengths. More specifically, Asao discloses that “[b]ecause the axial length of the stator 8 is formed shorter than the axial length of the rotor core, wind resistance is reduced, improving cooling characteristics and enabling the alternator to be made more compact”, (column 9 line 31-34), and “[b]ecause the axial length of the stator may be shorter than the axial length of the rotor, wind resistance is reduced, improving cooling and enabling the size of the alternator to be reduced.” Column 19, lines 5-8.

It is respectfully submitted that the natural design tendency with a twin-coil rotor or a rotor with more than two flux carrying segments, is for the stator axial length to become longer, not shorter than a rotor consisting of two flux carrying segments (e.g., a Lundell-type rotor). Therefore, Asao teaches away from a combination of a rotor composed of more than two flux carrying segments with stator phase shifting.

Further, as discussed in MPEP §2143.01, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine reference teachings. The Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references. See MPEP §2145 (C). In addition, see MPEP §2141.02 (prior art must be considered in its entirety, including disclosures that teach away from the claims) and MPEP §2143.01 (proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference). More specifically, MPEP § 2141.02 discloses that a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc.*

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*v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

In the present case, Applicant specifically claims a rotor composed of more than two flux carrying segments while Asao teaches away from more than two flux carrying segments because of the increase in rotor axial length, and thus axial stator length when going beyond two flux carrying segments as in a Lundell-type rotor and a Salient-type rotor taught in Asao.

It is worthwhile further noting that rotors composed of more than two flux carrying segments have been known to Asao and those in the art for nearly 40 years, yet Asao teaches away from rotors having more than two flux carrying segments. In particular, it should be noted that since 1997, Mr. Yoshihito Asao of Mitsubishi has been granted 120 U.S. patents and currently has at least 66 active patent applications filed. This is staggering considering that all of these patents are in regards to alternators and almost exclusively for either a stator or rotor. In the area of alternator stators and rotors, it is respectfully submitted that the issued patents of Mr. Yoshihito Asao would be considered 'obvious' under the Examiner's concept of 'obviousness', as Mr. Yoshihito Asao holds a number of patents that relate to stator phase shifting in combination with rotor enhancements for performance.

However, neither Mr. Yoshihito Asao nor anyone else has ever conceived of the idea of combining a phase shifted stator with a twin-coil rotor or a rotor composed of more than two flux carrying segments. If combining a phase shifted stator with a twin-coil rotor or a rotor composed of more than two flux carrying segments is obvious in light of the teachings of Radomski and Asao taken as whole, Applicant has no doubt that Asao would have applied for a patent or would have referenced it in one of his multitude of patents and patent applications in this area. But he hasn't, nor has anybody else in the 40 years that these separate technologies have been known.

There is no technological incentive after combination of the references (i.e., Asao et al. in view of Radomski) taken as a whole that would have suggested to the skilled artisan to modify or combine reference teachings as suggested by the Examiner.

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**Accordingly it is respectfully requested that the rejection with respect to claims 1-20 be withdrawn.**

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**Conclusion**

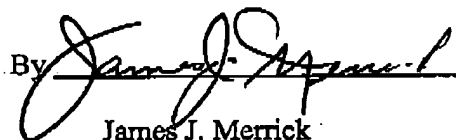
In view of the foregoing points that distinguish Applicant's invention from those of the prior art and render Applicant's invention not obvious, Applicant respectfully requests that the Examiner reconsider the present application, remove the rejections, and allow the application to issue.

If the Examiner believes that a telephone conference with Applicant's attorneys would be advantageous to the disposition of this case, the Examiner is invited to telephone the undersigned.

If additional charges are incurred with respect to this Amendment, they may be charged to Deposit Account Number 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,

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